



# CPH3345 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- 4V drive.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-2	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-8	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (1200mm <sup>2</sup> ×0.8mm)	1	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =-1mA, V <sub>GS</sub> =0V	-30			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0V			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GSS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1A	1.3	2.3		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-1A, V <sub>GS</sub> =-10V		98	130	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-0.5A, V <sub>GS</sub> =-4.5V		168	240	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-0.5A, V <sub>GS</sub> =-4V		190	270	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-10V, f=1MHz		340		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-10V, f=1MHz		70		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-10V, f=1MHz		56		pF
Turn-ON Delay Time	t <sub>d(on)</sub>	See specified Test Circuit.		9.0		ns
Rise Time	t <sub>r</sub>	See specified Test Circuit.		15.5		ns
Turn-OFF Delay Time	t <sub>d(off)</sub>	See specified Test Circuit.		36		ns
Fall Time	t <sub>f</sub>	See specified Test Circuit.		30.5		ns

Marking : YU

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# CPH3345

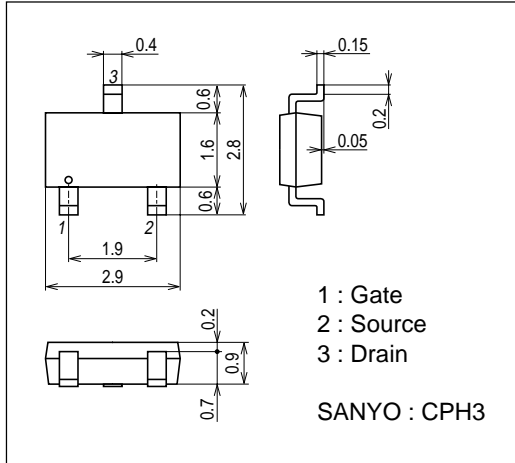
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-2A$		7.7		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-2A$		1.15		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-2A$		1.4		nC
Diode Forward Voltage	VSD	$I_S=-2A, V_{GS}=0V$		-0.85	-1.2	V

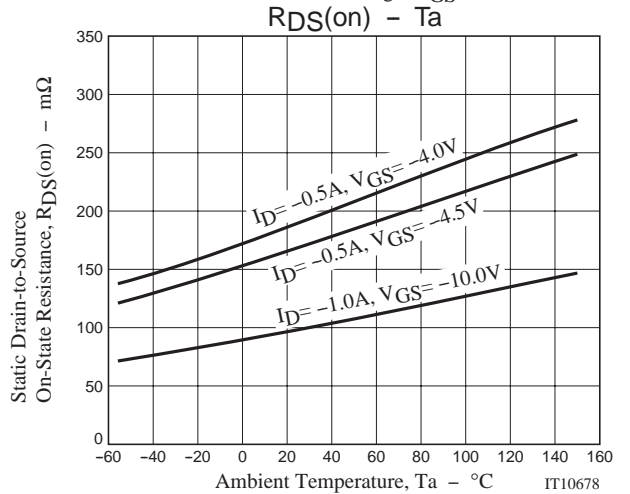
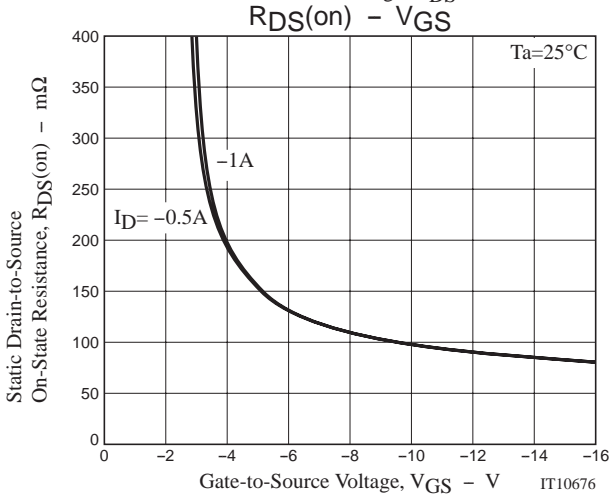
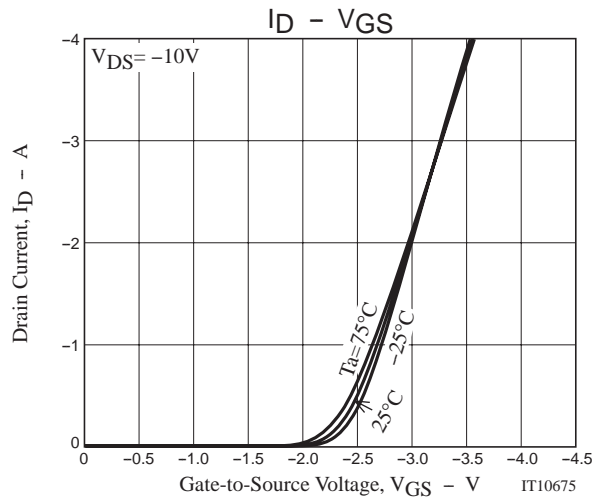
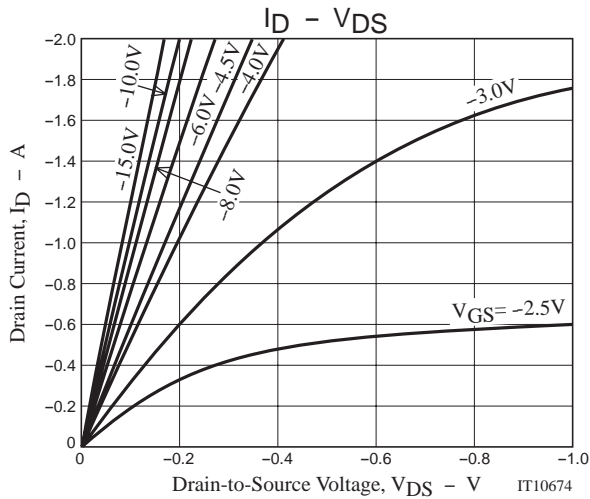
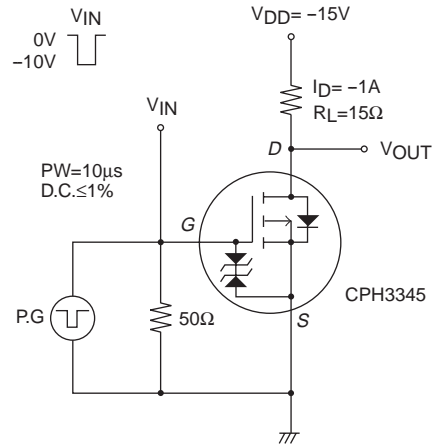
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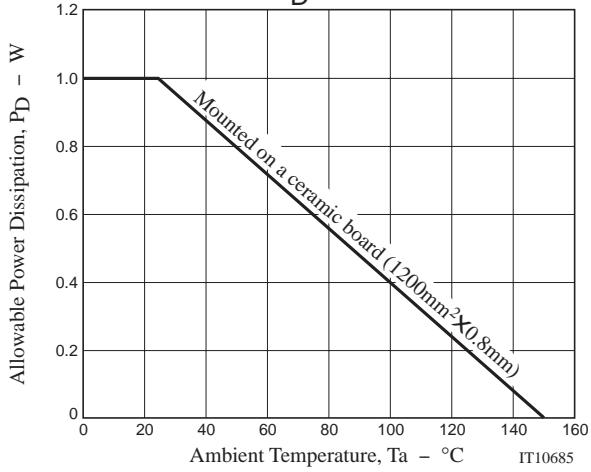
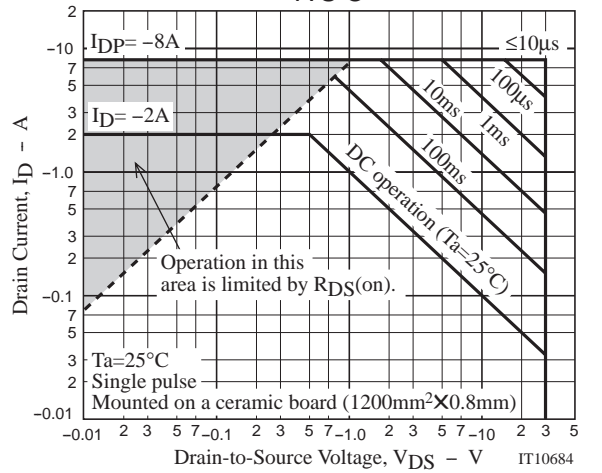
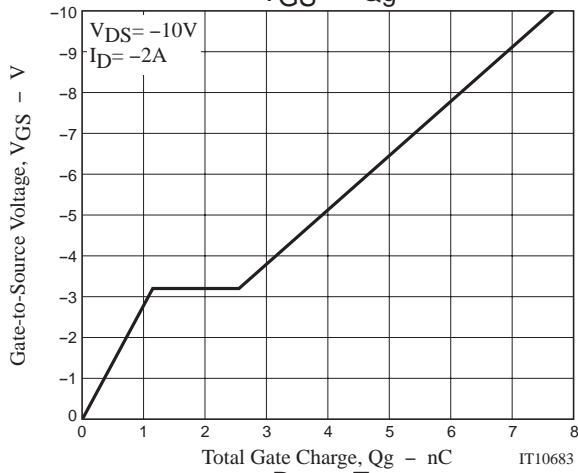
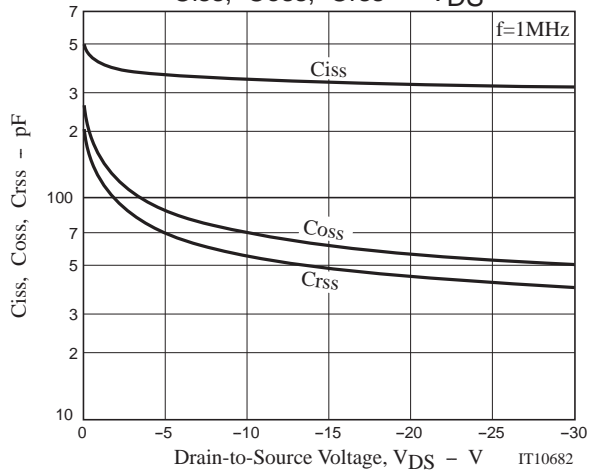
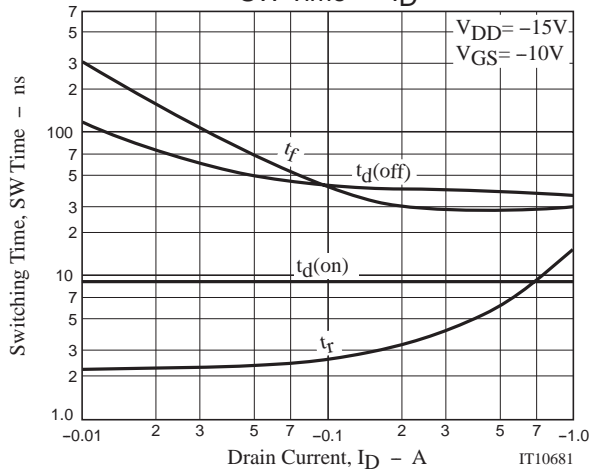
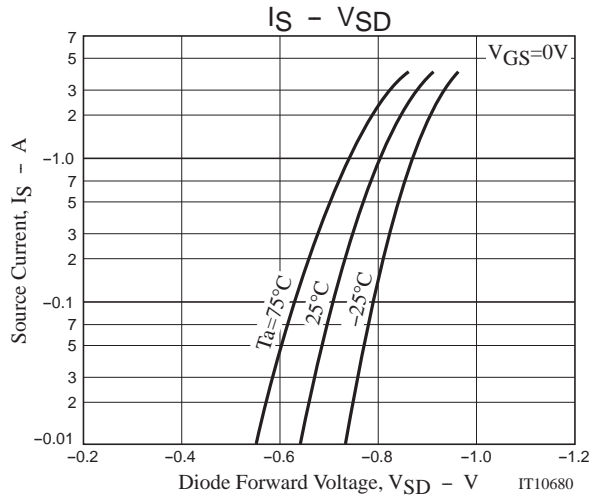
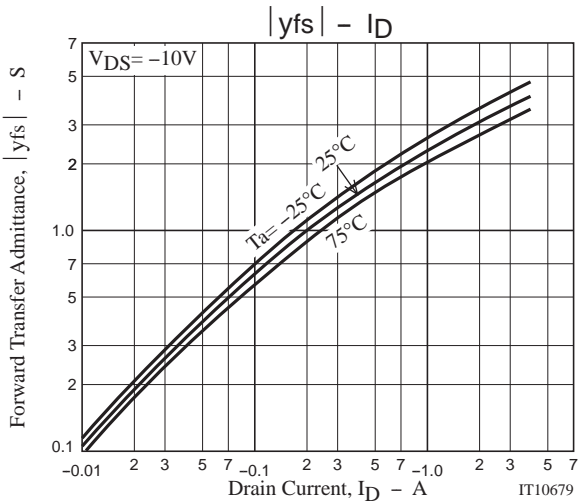
unit : mm

7015-004



## Switching Time Test Circuit





Note on usage : Since the CPH3345 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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